Methodological guide for incorporating qualitative techniques in youth-oriented extension

Workbook No 3:
Technical support techniques with a participatory approach

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Editorial coordination: Andrea Marcela Ávila Segura
Translation: IICA language unit
Layout and Cover Design: Fernanda Rojas Rodríguez

Rojas Poveda, Maritza
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1. Purpose of the workbook

Workbook No. 2, *Technical Support Techniques with a Participatory Approach*, is a practical tool aimed at strengthening the capacities of those who facilitate technical assistance processes, applied training, and methodological support in rural territories, with an emphasis on the work of extension agents. It conceives technical support not only as a process of transferring knowledge or skills, but also as a pedagogical and relational exercise in which extension agents build trust, promote effective participation, and create enabling conditions for contextualized, meaningful, and collaborative learning.

It is grounded in ethical and pedagogical principles that guide technical action toward safe, respectful, and inclusive environments. It proposes the application of techniques with purpose, closely linked to the objectives of the support process and the territorial context, through the integration of approaches such as interculturality, inclusion, human rights, sustainability, mutual care, and intergenerational dialogue. It provides clear and straightforward criteria for extension agents to select and adapt techniques according to the characteristics of each group, the productive activity, the stage of the process, and the realities of the territory.

It explicitly recognizes the strategic role of rural youth in driving productive dynamism, innovation, and community strengthening. The proposed techniques help reduce communication barriers, facilitate the appropriation of knowledge, promote the exchange of knowledge, and encourage the participation of those who tend to speak less, thereby strengthening horizontal dialogue around technical knowledge, local practices, and territorial experiences. In this way, extension agents are equipped with practical resources to support learning processes, improve community organization, and foster capacity development for informed decision-making.

This is a flexible and adaptable resource that can be tailored to each extension agent's style and to the particularities of each territory. Through the use of brief, practical, and strategic techniques at different stages of the technical support process—diagnosis, planning, implementation, and evaluation—it contributes to more participatory, relevant, responsive, and coherent extension, aligned with human dignity, the strengthening of the social fabric, and the comprehensive care of territories.

2. Technical support with a participatory approach

Participatory technical support is a co-learning process in which individuals and organizations within the territory work together with technical staff to drive agreed changes. Unlike traditional technical assistance, which is based on a one-way transfer of advice to the population, this approach recognizes and builds on local knowledge, promotes self-management, and strengthens capacities to make decisions and act in everyday contexts (FAO, 2016). In Latin America, participatory extension becomes more effective when it is articulated with local public policies, territorial networks, and community capacities (FAO, 2016).

Planning of technical support

The participatory planning of technical support, which involves defining objectives, actors, timelines, and resources, should be carried out with those who live in and manage the territory, in order to ensure cultural and operational relevance.

• **Objectives**. Objectives, defined jointly with the community or the producer, must be aligned with the participatory diagnosis and with approaches related to participation, youth, and sustainability. They should also be clear, measurable, and subject to review over time.

• **Actors.** The group of actors should include producers, youth, community leaders, women's groups, Indigenous peoples, local organizations, educational centers, public institutions and private sector partners, civil society organizations, and territorial platforms.

• **Timelines**. The schedule should be flexible and agreed upon in accordance with production calendars, local festivities, and the organizational dynamics of the territory. It should also include monitoring milestones to enable adjustments.

• **Resources.** Resources should include human, material, logistical, and technological components, as well as connectivity and accessible materials (language, formats, universal accessibility, etc.). Intangible resources such as networks of trust, agreements, and prior learning should also be considered.

To strengthen learning and the appropriation of results, it is recommended to promote activities based on a "learning by doing" approach, as well as peer-to-peer exchanges, farmer field schools, pilot innovation projects, and participatory monitoring mechanisms with regular feedback (FAO, 2021). These activities combine technical knowledge with community knowledge and facilitate continuous improvement of the process.

The following table presents, in a systematic manner, the main techniques used in participatory technical support, classified as traditional and non-traditional. Traditional techniques are those widely used in classical approaches to rural extension and participatory technical assistance (e.g., farmer field schools, peer mentoring, demonstration plots, and experience exchanges), due to their practical validation and widespread use in community-based applied learning processes. Non-traditional techniques are more recent, innovative, or creative methodologies that incorporate technological and expressive resources or alternative dynamics of co-learning and experimentation (such as living labs or innovation labs, participatory prototyping through design thinking, collaborative digital learning, youth creative labs, life histories, and agroecological social networks), and whose aim is to expand the ways of generating technical knowledge from territorial experience.

Taken together, these tools help strengthen the technical, organizational, and socio-emotional capacities of rural youth by promoting situated, collaborative, and action-oriented learning processes. They also enable the integration of knowledge dialogue into technical knowledge and local practices, generating spaces for critical reflection, experimentation, and the gradual adjustment of productive practices, organizational strategies, or community innovation initiatives. From this perspective, technical support is conceived as a relational process that requires building trust, promoting effective participation, and fostering the appropriation of learning by participants.

This table provides a clear and coherent overview of the tools available to guide extension work at different stages of the support process (initiation, implementation, monitoring, and closure),

facilitating the selection of techniques according to the objectives of the process, the territorial context, available resources, and the characteristics of the group. It constitutes a practical resource to strengthen the methodological relevance of technical support, promote the sustainability of learning, and contribute to the generation of useful evidence for the participatory monitoring and evaluation of achieved changes.

Table 1. Participatory technical support techniques.

Technique	Type	Example of application
Farmer field schools	Traditional	Collective learning through agricultural or livestock practice.
Peer-to-peer tutoring or mentoring	Traditional	Guidance on new techniques provided by experienced producers.
Demonstration plots	Traditional	On-site experimentation spaces aimed at validating agroecological practices.
Experience exchanges	Traditional	Visits between communities to learn from successful experiences.
Living labs or innovation labs	Non-traditional	Collaborative spaces where locally adapted solutions are designed and tested.
Participatory prototyping (design thinking)	Non-traditional	Creation of prototypes of tools, technologies, or market strategies.
Collaborative digital learning	Non-traditional	Use of virtual platforms (WhatsApp, Moodle, and Google Classroom) for continuous training.
Youth creative labs	Non-traditional	Spaces where rural youth design innovative solutions with a sustainability focus.
Life stories and learning	Non-traditional	Narrative documentation of changes experienced by participants.
Agroecological social networks	Non-traditional	Creation of virtual groups to share experiences and address questions.

3. Methodological foundation of participatory technical support

The techniques included in this workbook are grounded in the tradition of popular education, participatory methodologies, and contemporary rural extension approaches with a territorial perspective. Accordingly, the activities that form part of technical support are not ancillary or merely instrumental elements, but rather strategic pedagogical tools to build trust, foster participation, recognize existing knowledge, and promote learning rooted in the lived experience of rural youth.

The design of these techniques is inspired by principles such as horizontality, dialogue of knowledge, cultural relevance, meaningful learning, and youth leadership, which are present both in Latin American popular education and in various participatory extension approaches. Applying this approach entails considering the realities of young people: their

productive knowledge, their agricultural or community practices, their relationship with the territory, their trajectories in rural settings, and their personal and collective aspirations. In this context, the techniques serve a dual purpose: to support the development of technical skills and to generate valuable information to guide decision-making, adjust technical assistance, and strengthen support processes.

The selected techniques have been adapted to the specific characteristics of rural youth, that is, in accordance with their production cycles, family responsibilities, territorial diversity, and community identities, as well as with the needs of those providing technical support: accessible, flexible, and culturally relevant tools. This workbook includes dynamics based on classical extension methodologies (participatory production mapping, practice analysis, problem and solution trees, innovation pathways, symbolic productive objects, field visits, and rapid diagnostics, among others) that have proven effective in organizational strengthening processes, capacity development, and leadership training.

In this context, the role of the extension agent is that of a learning facilitator and mediator of technical dialogue, rather than that of an instructor who unilaterally transmits information. For this reason, this compendium offers tools that promote reflective and collaborative interactions, in line with a people-centered rural extension approach that recognizes dignity, knowledge, productive practices, and the transformative capacity of individuals.

4. Techniques

The techniques presented below are practical resources designed to effectively support rural youth in processes of technical learning, organizational strengthening, and territorial development. They are strategies aimed at facilitating participatory diagnostics, making productive knowledge visible, activating critical thinking, promoting technical reflection, and linking group experiences with the objectives of the support process.

Through brief, symbolic, and practical dynamics, these techniques help open dialogue, identify needs, recognize prior experiences, understand the context of each territory, and foster an environment of collaboration, respect, and care. They can be applied at different stages of the technical process—at the outset, during implementation, or at closure—as well as in both in-person and virtual settings.

They are designed so that extension agents can adapt them to diverse rural contexts, group sizes, and productive themes, with a perspective of inclusive participation, a rights-based approach, and a comprehensive recognition of rural youth as key actors in driving change, innovation, sustainability, and the transformation of their territories.

4.1. Field school

🎯 **Objective**	To strengthen the knowledge and skills of producers, particularly rural youth, through collective learning in the field, based on observation, experimentation, and decision-making on agricultural or livestock practices.
⏱️ **Time**	Continuous process over a production cycle or season: • Regular sessions (every 1–2 weeks, 2–4 hours) • Throughout the entire crop cycle or livestock management period
🧰 **Materials**	A demonstration plot or unit, crops or animals under management, basic field tools, a field notebook, a measuring tape, a simple scale, and materials for small trials (seeds, inputs, etc.).
🛠️ **Procedure**	**Organization of the farmer field school group** • Identify rural youth interested in improving their agricultural or livestock practices. • Form a stable group committed to meeting regularly on a reference farm or plot. • Agree on basic group rules (attendance, punctuality, rotating roles, and care of materials). **Definition of the central learning topic** • Engage in dialogue on the group's needs: improved soil management, pest control, crop diversification, livestock management, etc. • Select one or two priority topics for the field school cycle. • Formulate key questions such as: o What do we want to learn or improve in this area? o What concrete problems do we face on our farms? **Diagnosis on the plot or farm** • Conduct a guided visit of the host farm. • Observe soil conditions, crops, water management, livestock management, infrastructure, etc. • Carry out a joint analysis of what is working well and what visible problems exist. **Design of the practical learning plan** • Decide which trials or practices will be implemented on the farm (e.g., comparing two types of fertilizer, testing a new irrigation system, improving a livestock bed, etc.). • Define what will be measured or observed (plant growth, pest presence, forage quality, livestock health, etc.). • Determine who will be responsible for recording observations and results. **Successive practical sessions** • At each meeting: o Review the progress of trials or practices. o Conduct field observations and compare new practices with previous ones.

	o Apply new practices (planting, pruning, compost preparation, pasture management, etc.). o Discuss with the group what is working and what is not. **Systematization of learning** • Record observed changes in notebooks or through posters or photographs. • Together with the group, formulate simple conclusions such as: o This practice increases production. o This type of management reduces pests without using chemical substances. • Define which practices will be replicated on other youth farms.
Example	The extension team organizes and facilitates a farmer field school on a family farm, with the participation of a group of rural youth engaged in livestock production. Together, they define as their central topic the improvement of livestock feeding during the dry season. In the initial sessions, they observe the pasture and realize that the grass is depleted quickly. With the support of the extension team, the young participants decide to carry out a trial in which they compare one pasture with a single type of grass and another where forage banks and live fences are combined. At each session, they measure forage height, observe the condition of the livestock, and discuss the changes they perceive. At the end of the cycle, they conclude that the pasture with forage banks improves the condition of the livestock. As a result, they agree to replicate the practice on other youth-managed farms and share the lessons learned with other families in the area.

4.2. Coaching or mentorship between peers

Objective	To facilitate hands-on learning among producers, whereby those with greater experience support rural youth or other peers in adopting new techniques or improving production practices.
Time	Flexible, depending on the technique to be learned: • Short, regular sessions (1–2 hours) • Support over several weeks or a production cycle
Materials	A farm or practice space, basic tools, inputs depending on the technique (irrigation, bioinputs, and animal management), and a notebook for record-keeping
Procedure	**Identification of mentors and learners** • Ask the group to identify young people or producers with experience in specific areas (e.g., agroecology, marketing, and livestock management). • Identify those who wish to learn about these topics. **Definition of mentoring objectives**

	• Invite each pair (mentor–learner) or group to agree on: o What they want to learn and o What they can share. • Clearly establish the topics, approximate goals, and the period during which they will work together. **Agreement on the support modality** • Decide how the mentoring will take place: o Through visits to the mentor's farm, o Through hands-on meetings in plots, or o Through calls or messages when questions arise. • Establish a minimum frequency of meetings. **Implementation of mentoring sessions** • In each session: o The mentor demonstrates in practice how to apply the technique (e.g., compost preparation, sanitary management, crop rotation design, etc.). o The learner observes, asks questions, and applies the technique under supervision. o Feedback is provided on variations made to adapt the technique to the farm or context. **Monitoring progress** • The learner tests the technique on their own plot. • At the next meeting, discuss results, challenges, and adjustments made. • The mentor provides guidance on corrections and suggests improvements. **Closure and evaluation of the mentoring process** • Jointly review what has been achieved and what remains pending. • Ask both parties how they experienced the process and what they learned. • Briefly document key lessons learned to share with the rest of the group.
Example	In a rural community, a young woman who learned how to prepare biofertilizers on her farm (through her own initiative and with the support of her family) becomes a mentor to two other young people who want to reduce the use of chemical substances but do not know how to do so. The extension agent (from the Ministry of Agriculture, the municipality, or a project) facilitates the initial contact, determines that the young mentor already has experience, and proposes a peer-to-peer practical support process, clarifying that it is not a formal course but a joint learning process. From the outset, they agree to meet on the mentor's farm and discuss a key issue for the viability of the mentoring process: costs. The

	mentor explains that she can teach, but that some inputs are costly (molasses, containers, and transportation) and that she cannot take on additional expenses. The extension agent facilitates a simple agreement: each learner contributes one input (molasses or containers), and the institution or project provides transportation or a small starter kit. In this way, the mentor is not required to finance the training with her own resources, and it is acknowledged that technical experience does not always come with financial capacity. In the first session, the mentor demonstrates step by step how to prepare a liquid biofertilizer using materials available on the farm: manure, molasses, water, and mountain microorganisms, which she mixes in a simple container. She explains the basic indicators that show the fermentation is proceeding properly (smell, foam, and color). The extension agent supports the organization of the steps, reinforces basic safety and hygiene measures, and proposes a simple monitoring record (e.g., taking photos on day one and day seven). In the following weeks, the learners attempt to replicate the mixture on their own plots, and common questions arise: one mixture swelled excessively, another became too thick due to excess molasses, and another was prepared without mountain microorganisms, leading to questions about possible alternatives. The learners send voice messages, photos, and texts to the mentor, who responds when she can. The extension agent supports the technical follow-up, helps interpret observations, and coordinates a brief visit to review progress, so as not to overburden the mentor. Subsequently, a second meeting is held to verify how the biofertilizer is applied and what changes are observed in the crops. Comparisons are made regarding where it was applied, how frequently, and the results observed (more vigorous plants, greener leaves, lower incidence of pests or fungi, or improvements in soil conditions). The extension agent helps facilitate a simple reflection on lessons learned, necessary adjustments, and approximate preparation costs, so that the group can assess the sustainability of the practice. At the end, a small community meeting is organized in which the learners share their experience with other young people: they explain what worked, the mistakes they made, and what they would do differently. The mentor also reflects on what she learned through the process. She notes that tutoring other young people strengthens her leadership and that it is important for mentoring processes to include clear agreements on time, logistics, and costs in order to be fair and sustainable.

4.3. Demonstration plots

🎯 **Objective**	To validate and demonstrate agroecological practices or appropriate technologies in the field, enabling rural youth and other producers to observe real results and learn through direct experimentation.
⏱️ **Time**	Aligned with the production cycle: • Initial setup (2–4 hours) • Regular visits (every 1–3 weeks) • Evaluation at the end of the cycle
🧰 **Materials**	A plot of land, inputs and tools depending on the practice (seeds, bioinputs, irrigation, and agricultural tools), stakes or tape for delimitation, and a record-keeping notebook
🛠️ **Procedure**	**Selection of the demonstration plot** • Identify a plot or farm where the difference between traditional practices and new or improved agroecological practices can be clearly demonstrated. • Agree with the family or the young person responsible on the use of that space for training purposes. **Definition of objectives for the plot** • Decide with the group what will be demonstrated: o The advantages of using organic fertilizers over chemical ones, o Crop diversification, o Water management, o Intercropping or species association, etc. • Formulate the central question: what do we want to test or demonstrate? **Design of the experiment or demonstration practice** • Compare two or more management approaches: o In one part of the plot, conventional practices are applied. o In another, improved practices are used (agroecological, more efficient, etc.). • Define what will be observed: yield, pest presence, soil quality, etc. **Participatory implementation** • Organize work sessions so that youth can participate in planting, preparing inputs, installing irrigation systems, etc. • Explain in practical terms why each step is implemented. **Regular observation visits** • Schedule group visits to the demonstration plot. • At each visit: o Observe the condition of the plots comparatively. o Take measurements or record data (plant height, foliage condition, production quality, etc.). o Discuss with the group the visible differences. **Systematization and replication**

	• At the end of the cycle, analyze the results with the group: what worked, what did not, and why. • Develop simple recommendations to replicate the practice on other youth-managed plots. • Record photos and testimonies to document the practice.
Example	In a rural community, a group of young people decides to establish a demonstration plot to compare two ways of planting maize: monoculture and maize intercropped with beans and squash. The idea emerges because several group members have heard that intercropping provides better soil cover and helps reduce weeds. From the outset, the extension agent supports the organization of the group agreement, the selection of an accessible site for all participants, and the division of the plot to ensure a clear comparison. The issue of costs is also addressed: it is agreed who will contribute seeds, tools, fertilizers, and transportation for visits. To avoid overburdening any one person, they agree to share contributions: each young participant contributes according to their means (seeds, labor time, tools, or a small cash contribution to purchase what is needed), and, when resources are available, the institution or project provides basic inputs or transportation to facilitate participation. All the young participants take part in implementation, from clearing the land and preparing the soil to planting. The extension agent plays an active role, not only in observation but also in organizing the work, clarifying basic technical questions (planting distances, timing between crops, basic pest management, etc.), and encouraging simple record-keeping—for example, taking weekly photos and noting observations in a notebook (e.g., soil remains covered, weeds have appeared, plants look vigorous, insect damage is present, etc.). At each follow-up visit, the group compares both sections of the plot using practical criteria: soil cover, weed presence, moisture retention, and plant condition. Observations and lessons emerge, such as: in one section the soil dries out more quickly; in the other, weed control requires less effort; some plants appear greener, etc. The extension agent facilitates the discussion so that the group can identify causes and agree on simple adjustments. At the end of the cycle, it is observed that maize intercropped with beans and squash better protects the soil, reduces weeds, and provides a greater diversity of products for household consumption. In a short closing meeting, the youth share what they have learned and reflect on the practical aspects: the work involved in establishing the plot, the inputs required, and the organization needed. Several young participants decide to test intercropping on small areas of their

	own farms, and the extension agent supports follow-up by encouraging continued exchange of lessons learned among the youth and documenting results for replication by other families or groups.

4.4. Exchange of experiences

🎯 **Objective**	To facilitate direct learning through visits to communities with successful experiences, enabling rural youth to observe real practices, engage in dialogue with other producers, and expand their capacities and networks.
⏱️ **Time**	One full-day session (4–8 hours) per visit, depending on distance and the complexity of the experience
🧰 **Materials**	Transportation, notebooks for note-taking, a camera or mobile phone for documentation, a simple set of guiding questions, and prior coordination with the person in charge of the project
🛠️ **Procedure**	**Identification of experiences to explore** • Together with the youth, define the types of initiatives they are interested in learning about: o Successful agroecological projects, o Youth-led rural enterprises, or o Solidarity-based marketing experiences. • Identify nearby communities where similar initiatives are being developed. Planning the exchange • Contact the host individuals or organizations to plan the visit. • Define the objectives of the exchange: o What do we want to learn? o What questions should we ask? • Prepare a simple observation and question guide. Visit and guided tour • Upon arrival, provide space for the host group to share the story of their initiative: its beginnings, challenges, and achievements. • Tour the work areas (gardens, processing areas, sales points, etc.). • Encourage visiting youth to ask questions at all times. Space for horizontal dialogue • Facilitate a conversation between both groups on: o Shared challenges, o Creative solutions they have found, and o Recommendations for those just starting a project or enterprise. Documentation and reflection upon return • Back in the community, bring the youth group together. • Ask them the following questions: o What stood out most to you?

	o Which ideas could you adapt to your context? • Develop a list of practices or strategies they wish to try.
Example	A group of young people working in agroecological gardens organizes a visit to a community where other youth have successfully sustained a small enterprise producing packaged vegetables. The extension agent supports the coordination of the visit, establishes contact with the host group, and helps plan the itinerary so that it is practical and useful. Before departure, the group addresses the issue of costs related to transportation, food, and materials. To make the visit feasible without overburdening anyone, they agree on a simple arrangement: each young participant contributes what they can (e.g., a small fee for transportation or food), and, if the project or institution has available resources, it covers part of the travel or provides an institutional vehicle. They also decide to offer a token of appreciation to the host group (e.g., bringing vegetables or seeds, or purchasing their products). During the visit, the youth observe how the host group selects, washes, packages, and presents vegetables for sale. They also visit the small sales outlet, where they discuss practical aspects such as which products sell most quickly, packaging management, what is done with unsold products, and how prices are calculated. The hosts explain that at the beginning they incurred losses because they did not keep clear records: they were selling but did not know whether they were making a profit or a loss, nor how much they were spending on bags, transportation, or inputs. The extension agent facilitates the discussion with questions such as: What worked first? Which mistake would you avoid repeating at all costs? Which expenses did you incur without realizing it? How did you manage to organize your accounts? Upon returning to their community, the visiting group meets to reflect on what they observed and to adapt the ideas to their own context. They decide to start with something small and feasible: the weekly sale of seasonal vegetable baskets within their community. Based on what they learned, they agree to use a simple record-keeping notebook from the outset to track costs and sales, including expenses for seeds or inputs, packaging costs, time invested, sales, and unsold products. The extension agent provides support in organizing the plan (who prepares the baskets, distributes them, collects payments, and records information) and promotes consistent and simple record-keeping so that the group can make informed decisions and avoid losses similar to those experienced by the host youth.

4.5. Live or innovation labs

🎯 **Objective**	To create spaces for collective experimentation where rural youth and other stakeholders can co-design, test, and refine technical and organizational solutions to concrete challenges related to water, bioinputs, marketing, and more, through the integration of local, technical, and scientific knowledge.
⏱️ **Time**	Medium-term process: • 1–2 initial sessions (3–4 hours) to define the challenge, establish the lab, and co-design solutions • Several weeks or months of field testing • 1–2 sessions for evaluation, systematization, and dissemination
🧰 **Materials**	Flip charts, cards, markers, a mobile phone for taking photos or recording videos, record sheets, as well as specific inputs for the challenge (irrigation materials, bioinputs, tools, etc.).
🛠️ **Procedure**	**Definition of the living lab** • Explain that a living lab is a space where new solutions to real community or rural production problems are tested collaboratively. • Clarify that the aim is to experiment, not to obtain perfect answers. **Identification of the problem or challenge** • Ask youth to present concrete problems they face, such as: o Crop losses due to water scarcity, o Difficulties in storing products, or o Lack of marketing spaces. • Select one or two priority challenges. **Generation of solutions** • Facilitate a brainstorming session so that everyone can propose possible solutions, without judging them as right or wrong. • Group similar ideas and select those that seem feasible to test. Collaborative design of the trial • Decide which solution will be implemented first (e.g., a rainwater harvesting system, a better-ventilated rustic storage facility, a small local market, etc.). • Define: o The required materials, o The people responsible for different contributions, and o The activities to be carried out at each stage. **Implementation of the solution** • Jointly carry out the construction, adaptation, planting, organization, etc. • Document the process with photos, notes, and drawings. **Evaluation and adjustments** • Observe how the solution works in practice. • Ask:

	o What is working well? o What is not working as expected? • Make adjustments and improvements together with the group. **Documentation and replication** • Clearly document what was done, how it was done, and the results obtained. • Share the experience with other youth or interested communities.
Example	In a living lab carried out in a community where water is scarce in summer and sometimes unavailable for days, a group of young people decides to test a simple idea: harvesting rainwater from the roof of the community hall. The proposal emerges because several youth have seen similar systems operating in other communities or on social media, but they do not know exactly how much implementation would cost or whether it would work in their context. From the outset, the extension agent helps the group organize the process by convening a meeting to identify the problem, define what they want to test, and agree on who will take on different responsibilities. The extension agent also facilitates a practical discussion on costs, since, although the system appears simple, installation requires materials such as gutters, pipes, joints, adhesive, a basic filter, and a storage tank or barrel. To avoid placing the financial burden on a single individual, a mixed approach is agreed upon: some participants contribute labor and tools, the community provides materials already available (e.g., reusable barrels), and, where institutional or project support exists, it is used to procure the more difficult-to-access inputs. The extension agent assists in preparing an approximate budget based on a list of materials and in coordinating their acquisition. The youth then install the system using the materials at hand: simple gutters fitted along the roof of the community hall and a storage tank placed in a secure location. Some adults from the community also participate, particularly in tasks requiring experience or physical effort, such as climbing onto the roof or securing supports. The extension agent supports the organization of the work by promoting basic safety measures and ensuring the system's functionality (proper gutter slope, sealed joints, and a simple mechanism to prevent leaves or debris from entering). They also suggest keeping a practical record of rainfall dates, the amount of water collected in the tank, and how long it remains stored. In the following months, the group records how much water is collected during the rainy season and identifies common issues such as clogged gutters, leaks in joints, or water contamination due to the absence of a filter. Through this process, they confirm that the system works, as water can be stored for community use (cleaning, irrigating

	small areas, emergency support, etc.). Based on these results, the youth present a proposal to the community during a meeting, suggesting replication of the system in the school and in some households, with adjustments to tank size according to each family's needs and capacities. The extension agent supports the systematization of lessons learned, the definition of prioritization criteria, and the identification of funding options or community contributions to ensure that replication is both feasible and equitable.

4.6. Participatory prototyping (*design thinking*)

🎯 **Objective**	Co-create simple and feasible solutions with rural youth to concrete problems, following a cycle of empathy, definition, ideation, prototyping, and evaluation.
⏱️ **Time**	• 2–3 initial sessions (2–3 hours each) • 2–4 weeks of prototyping, testing, and refinement
🧰 **Materials**	Flip charts, cards, markers, simple materials for prototyping (cardboard, packaging, and sketches), and a mobile phone for documentation and feedback
🛠️ **Procedure**	**Introduction to prototyping logic** • Explain to the group that they will work with prototypes—that is, trial versions of tools, products, or strategies—which are then validated and improved until the desired outcome is achieved. • Emphasize that the goal is to learn through creation, not to produce a perfect prototype. **Identification of the challenge** • Ask questions such as: o What problem do we need to solve to improve our production or sales? o What customer need have we not yet addressed? • Select a clear challenge: improving product presentation, designing a simple tool, creating a new service, etc. **Idea generation (creative phase)** • Use brainstorming, drawings, or mock-ups made with simple materials (cardboard, paper, or modeling clay). • Encourage participation from everyone, avoiding criticism of ideas at this stage. **Selection of an idea for prototyping** • Review the ideas generated and, through voting or consensus, decide which one to test first. • Choose an idea that is: o Relevant to the group, and o Feasible given available resources. **Prototype development**

	• Create a model or initial version of the tool, product, or strategy, such as: o A new type of packaging, o A stand for fairs, o A brochure or label, or o A small handmade device, etc. • Since this is a first version, use materials that are easy to obtain. **Testing with users or within the group** • Present the prototype to potential users (customers, other youth, or adults). • Ask for feedback: o What do you like about this? o What would you change? • Record comments and suggestions. **Refinement of the prototype** • Adjust the design based on the feedback received. • If possible, repeat the cycle of testing and refinement.
Example	A group of young people producing artisanal jams decides to use participatory prototyping to improve product presentation and increase sales. The idea arises because, although people like the flavor, they often ask about the ingredients—whether they are natural and where they come from. The extension agent supports the process from the outset by guiding the discussion and helping to identify the problem in a simple way. In this case, it becomes clear that the product itself is not the issue; rather, the label does not provide information about how the jam is made or the origin of its ingredients. Before starting the prototyping process, the group addresses the issue of costs, since improving the label involves expenses related to materials such as adhesive paper, ink, jars and lids, as well as printing and transportation to source materials. To avoid placing the burden on a single person, they agree on a simple arrangement: each young participant contributes something (paper, jars, or a small financial contribution), while the extension agent seeks basic support from the project or institution (e.g., printing an initial batch or providing materials for prototypes). They also decide to first create prototypes using low-cost materials, to avoid unnecessary expenses before selecting a final design. In the first session, the group proposes a clear idea: to include information on the labels about the rural origin of the jams so that customers understand what they are purchasing. With support from the extension agent, they define the minimum information the label should contain (ingredients, flavor, production date, contact information, and the origin of the fruit). They then create several simple label prototypes on paper, cutting, drawing, and placing them

	on empty jars. The extension agent encourages the group not to aim for perfection, but to generate a variety of options for comparison. Next, the prototypes are shown to neighbors and friends in the community and displayed at the local market. Direct feedback is gathered, such as: this design looks more natural; I like that it says it is agroecological; this name sounds more homemade; or it is not clear which fruit it is. The extension agent supports the consultation process by suggesting simple questions and recording feedback to ensure that no input is lost. Based on this information, the group selects the clearest and most appealing design, refines the label, and prepares an improved version. Finally, they print a small batch and test it at the local market. In the following weeks, they observe whether customers ask fewer questions and whether the product sells more quickly, while also noting additional feedback. From this experience, the group confirms that participatory prototyping allowed them to improve product presentation without incurring excessive costs, and that a clear label helps highlight the value of their work and the origin of their product.

4.7. Collaborative digital learning

🎯 **Objective**	To use digital platforms to sustain technical support and knowledge exchange among rural youth and excluded groups, in support of continuous learning, mutual support, and participation, even when in in-person activities are not always possible,
⏱️ **Time**	Continuous process: • 1 initial session (1–2 hours) to introduce the platform • Weekly interactions • Adjustments every 1–3 months
🧰 **Materials**	Mobile phones or computers with basic connectivity, a digital platform (WhatsApp, Telegram, Moodle, Google Classroom, Facebook, Zoom, etc.), and digital materials (videos, fact sheets, audio recordings, and photos).
🛠️ **Procedure**	**Selection of the platform** • Ask participants which digital tools they use most (WhatsApp, Telegram, Moodle, Google Classroom, Facebook, Zoom, etc.). • Choose one or two that are accessible to the majority. **Creation of the virtual space** • Set up a group or virtual classroom and give it a name (e.g., Agroecological Youth of [community name]). • Establish basic rules on respect, reasonable messaging times, and permitted types of content. **Organization of content** • Define what types of materials will be used:

	o Short videos, o Infographics, o Audio explanations, or o Practical guides in PDF format. • Establish units or topics to be covered (soil, water, marketing, animal health, etc.). **Collaborative interactions** • Encourage not only the facilitator but also the youth to share different types of content: o Photos of their plots, o Questions, o Suggestions, and o Short videos of applied practices. • Pose motivating questions such as: o Has anyone tried this technique yet? o What would you do in this situation? **Simple activities and tasks** • Propose small assignments in photo or audio format: o Ask participants to share a photo showing water management on their plot. o Request an audio recording describing the most challenging aspect of applying organic fertilizer. • Provide respectful and constructive feedback. Closure and evaluation of the space • Ask the group: o What aspect of this activity was most useful? o What would you change? • Decide whether to maintain the virtual group as a support network once the formal project has ended.
Example	Within a capacity-building program for young producers, a WhatsApp group is created to maintain contact between workshops and address day-to-day questions. This idea emerges because many young participants cannot wait until the next in-person meeting to ask about pests, diseases, or crop-related issues. The extension agent or facilitator proposes the group as a simple support tool and agrees on basic rules for its proper functioning: respect, reasonable hours for sending messages, clear communication, and the use of photos or audio messages to better explain issues. From the outset, the issue of costs is addressed, as not all young participants have the same conditions: some have limited data, unstable connectivity, or must pay for mobile top-ups. To ensure inclusivity, simple measures are agreed upon: sharing short (low-data) videos, prioritizing audio messages and compressed images, and sending materials at times when connectivity is better. If the project

	or institution has resources, it may support some participants with data top-ups or enable community connectivity points (e.g., at the community hall or school). The extension agent facilitates these arrangements to prevent exclusion due to limited internet access. Within the group, short videos and practical advice are shared on planting techniques, pest management, preparation of bioinputs, and marketing. Several members send photos of their gardens, ask about leaf spots, insect presence, or plant weakness, and receive responses from both peers and the extension agent. A key strength of the group is that responses do not come only "from above," but also from the experience of other members: one participant notes having faced a similar issue and explains how it was resolved; another suggests checking irrigation or using a natural mixture. It becomes a space for exchanging practical, experience-based solutions. One day, a young participant records a video on their phone explaining how they installed a simple drip irrigation system using a hose and plastic bottles. They demonstrate the process step by step, without technical jargon. The extension agent reinforces this contribution with basic recommendations—such as preventing leaks, cleaning filters, and checking pressure—and encourages other group members to try it. In the following weeks, several participants replicate the idea on their own plots using available materials and share photos of their results. Although the in-person process comes to an end, the WhatsApp group remains active. It becomes a support network where participants not only resolve technical questions but also share achievements and challenges, such as selling their first vegetable baskets or losing crops due to heavy rains. The extension agent continues to provide follow-up, offers guidance when needed, and encourages sustained participation from all members, strengthening collective learning and mutual support throughout the production process.

4.8. Creative youth lab

🎯 **Objective**	To create a safe space where rural youth can experiment with ideas, technologies, and projects that support the sustainable development of their territories, by strengthening their creativity, critical thinking, and leadership, especially in contexts of exclusion.
⏱️ **Time**	Cyclical process: • 1 initial session (2–3 hours) for outreach and topic definition • 3–6 sessions of creative work and project development • 1 session for presentation and closure
🧰 **Materials**	A community space, flip charts, cards, markers, mobile phones, basic audiovisual tools (phone camera and apps), minimal internet access,

	and, depending on the project, materials for building prototypes (homemade sensors, hoses, cardboard, paints, etc.)
🛠️ **Procedure**	**Definition of the creative lab** • Present the creative lab as a space where youth design innovative solutions to community challenges with a sustainable and participatory approach. • Clarify that artistic, technological, productive, and organizational ideas can be combined. **Exploration of problems and opportunities** • Invite the group to identify issues or opportunities that concern them, such as: o Youth unemployment, o Product waste, o Lack of cultural spaces, and o Untapped tourism potential. • Select a few priority topics to work on. **Activation of creativity** • Conduct activities such as brainstorming, mind mapping, drawing, or spontaneous theater. • Encourage recording all ideas without filtering them at this stage. **Formation of working teams** • Form teams based on participants' interests. • Each team selects a specific problem and begins developing creative solutions. **Design of proposals** • Teams should develop proposals that address the following questions: o What do we want to do? o For whom? o With what resources? o How does this proposal contribute to social, economic, or environmental sustainability? • They may create models, drawings, presentations, or short dramatizations. **Presentation and feedback** • Each team presents its proposal to the rest of the group. • Participants provide comments, suggestions, and questions. • Ideas are refined based on this feedback. **Definition of steps to implement at least one proposal** • Select some ideas to be implemented (even at a small scale or as pilot projects). • Define responsibilities and concrete actions to get started.

Example	In a community where, during certain seasons, there is an abundance of fruit and part of it goes to waste because there is not enough time to sell or consume it, youth participate in a creative lab to find practical solutions to this problem. In the first session, they document everyday situations: some fruit falls and rots, while some is given away and still there is surplus. At the same time, there are limited job opportunities for young people. The extension agent helps organize these ideas, encourages participation from all, and guides the discussion toward feasible alternatives based on locally available resources. The youth form teams to propose simple ideas for using the fruit, such as making artisanal ice pops, dehydrated fruit, jams with a local brand, or ready-to-eat packaged fruit portions. From the outset, the extension agent addresses the issue of costs. The group analyzes what each option requires (ice, sugar, containers, cooking equipment, gas, electricity, transportation, permits, etc.) and what each participant can contribute. To avoid placing the full financial burden on a single person, they agree on a shared arrangement: some youth contribute fruit or labor, others provide utensils or containers, and, if institutional or project support is available, a small seed fund is sought to carry out the initial trial (e.g., purchasing containers or basic ingredients). They also agree to keep records from the beginning to track expenses and income. One team decides to develop the idea of artisanal ice pops. They design a logo on paper, test different names for a local brand, and prepare a simple list of materials: fruit, sugar, milk or water, ice, sticks, small bags or cups, and a cooler to keep the product frozen. The extension agent supports them in calculating quantities, estimating unit costs, and defining a realistic testing plan—starting with a small batch to avoid losses if not all products are sold. The agent also helps organize roles for preparation, purchasing inputs, sales, and record-keeping. The proposal is presented at a community meeting, and it is agreed to test it at the next local fair with a small production run. During the fair, the youth observe which flavors sell best, which presentation is preferred, and gather feedback from customers (too sweet, too watery, better in cups, etc.). The extension agent supports the evaluation with simple guiding questions and promotes record-keeping of results: number of ice pops sold, costs incurred, revenue generated, and unsold products. Based on this experience, the group adjusts flavors, pricing, and presentation. They also assess the sustainability of the initiative: how long production takes, which costs are fixed, how to obtain cheaper

	packaging, and how to organize work and profits fairly. In this way, the creative lab not only generates ideas but also drives a realistic first step toward community action, with youth participation, collective learning, and clear agreements on resources and responsibilities.

4.9. Life stories and lessons learned

🎯 **Objective**	To make visible changes in the lives of rural youth and excluded groups through their own narratives, that is, the transformation of their practices, self-esteem, organization, and life projects.
⏱️ **Time**	• 1 brief session to define the purpose and select participants • 1–2 hours per story (interview or writing) • Additional time for drafting, validation, and dissemination
🧰 **Materials**	An open-ended question guide, a mobile phone or recorder, a notebook, a pen, a computer for writing, and dissemination channels (PDF, audio, video, social media, community radio, etc.)
🛠️ **Procedure**	**Introduction of the technique** • Explain to the group that they will work with in-depth life stories of selected young people, focusing on their lessons learned in agricultural, community, family, and project contexts. • Emphasize the importance of confidentiality and respect. **Selection of participants for the stories** • Invite individuals to voluntarily share their stories. • You may also suggest that individuals with representative trajectories (e.g., youth who have taken on leadership roles, migrated and returned, or started a business) share their experiences. **Design of an interview guide** • Develop guiding questions such as: o What was your childhood like in the community? o What role has agriculture or rural life played in your story? o What important changes have you experienced in recent years? o How has this project influenced what you do or how you see yourself? o What lessons do you believe will stay with you in the future? **Conducting interviews** • Carry out the interview in a quiet space where the person can express themselves freely. • Record audio or take detailed notes with the interviewee's consent. • Ensure that the conversation remains respectful. **Writing or editing the life story** • Transcribe or summarize the interview into a narrative text. • Organize the story into stages (before, during, and after the project). • Highlight key lessons learned as expressed by the individual.

	Feedback and validation • Share the draft with the interviewee so they can revise, add, or remove elements if they wish. • Ensure they are comfortable with the final version. **Collective use of the stories** • While preserving anonymity, share excerpts of the stories (with consent) in workshops, project materials, or community spaces. • Use them to reflect on changes in the lives of rural youth and the factors that made those changes possible.
Example	A young producer participates in an interview as part of a community study on youth. At first, she appears somewhat nervous, but the extension agent clearly explains the purpose of the interview, how the information will be used, and that she can decide which parts she wishes to share and which she does not. Practical aspects are also addressed: the time the interview will take, the location where it will be conducted, and any potential associated costs (transportation, food, etc.). To ensure that participation does not become a burden, it is agreed that the interview will take place in an accessible location and, where possible, that the project or institution will cover transportation or recognize the time invested through per diems, refreshments, or materials, so that the young woman does not have to bear the costs of her participation. During the interview, she explains that as a child she did not like farm work because she associated it with hardship, poverty, and limited opportunities. She recalls that in her family it was often said that "the countryside is for suffering," and that the only way forward was to study or migrate. Over time, through her participation in the project, she began to view agriculture differently—as a real opportunity for entrepreneurship, income generation, and economic autonomy. She emphasizes that this shift was gradual, resulting from learning new practices, becoming aware of other experiences, and receiving support from other youth. In her narrative, she also reflects on the challenges of being a young woman in a context where she is expected to migrate, not to "waste time" in agriculture, or to focus solely on caregiving roles. She mentions comments she has received (this is not for women, you should find work in the city) and how difficult it can be for her work to be taken seriously. The extension agent listens without judgment, asks questions that encourage reflection, ensures that the interview takes place in a safe environment, and supports her in reviewing the text so that it faithfully represents her story.

	After reviewing the transcript, the young woman agrees to have part of her story included in a guide for other youth, on the condition that her preferences regarding which excerpts to share and how they are presented are respected. The extension agent facilitates informed consent and agrees with her on the use of the material. Later, in a group session, selected excerpts are shared (without revealing sensitive information), and the group reflects on how many young people have grown up with a negative view of rural work and how it can be redefined. The discussion focuses on real lessons: what enabled her change in perspective, the support that proved essential, the barriers she faced as a young woman, and the messages that can help other youth value rural work as a dignified, productive, and viable future option.

4.10. Agroecological social media

🎯 **Objective**	To promote the exchange of knowledge and mutual support in agroecology among rural youth and excluded groups through virtual communities.
⏱️ **Time**	Continuous process, with an initial activity and ongoing weekly participation
🧰 **Materials**	A mobile phone or computer with internet access, a group on Facebook, WhatsApp, or Telegram, and simple digital materials (photos, audio messages, and short videos)
🛠️ **Procedure**	**Determining the need for a network** • Engage youth in a discussion about the importance of staying connected to address questions and share achievements and agroecological experiences. • Remind them that a virtual network can support continuous learning and the resolution of concrete problems. **Selection of a platform and creation of the group** • Ask which social media platform they use most (WhatsApp, Facebook, Telegram, etc.). • Create a group and give it an appropriate name (e.g., Youth Agroecological Network of [region name]). • Invite youth from different communities who are interested in the topic to participate. **Definition of basic rules** • Establish minimum guidelines on: o Respectful communication, o Content related to agroecology, production, marketing, and other relevant topics, o Avoidance of misinformation or offensive content. • Assign one or more group administrators. **Launching the network**

	• Clearly state the purpose of the network in an initial message. • Invite each member to briefly introduce themselves and share what they produce or want to learn. • Encourage members to share photos of their plots, questions, and tips. **Ongoing exchange** • Encourage peer-to-peer responses, not only input from a technical expert. • Promote informal sections such as: o Tip of the week, o Photo of the day from my plot, and o Challenges I am facing in my crop today. **Linking with in-person processes** • Use the network to coordinate visits, exchanges, joint work sessions, or fairs. • Share materials with those who could not attend in-person activities. **Follow-up and strengthening** • Periodically ask the group: o What has been useful to you about this network? o What could we improve? • Adjust rules or dynamics based on emerging needs.
Example	In a region where several communities are undergoing agroecological transition processes, youth decide to create a WhatsApp network so that these communities can support one another. The extension agent or facilitator promotes the idea and helps organize the group from the outset: inviting young people from different territories, agreeing on basic rules of interaction (respect, clear messaging, reasonable hours, etc.), and proposing that the space function primarily as a network for learning and support. From the beginning, the issue of costs is addressed. Not all young participants have the same resources for connectivity: some rely on prepaid data or have limited signal. To ensure inclusive participation, they agree to share short photos and videos, prioritize audio messages and concise texts, and, where institutional or project support is available, request assistance through data top-ups or the establishment of community connectivity points (e.g., at the community hall, school, or a partner organization's space). Over the following weeks, through the network, youth from different communities share photos of their plots, raise questions about pests, leaf spots, or soil problems, and receive responses from peers who have faced similar situations. They recommend practical solutions and tested practices, such as natural extracts, traps, plant-strengthening mixtures, or adjustments in irrigation.

	On one occasion, a young woman shares photos of a disease affecting her tomato plants, and several participants offer suggestions based on their experience: one recommends checking for excess moisture, another suggests using a natural mixture, and another advises pruning and improving ventilation. The extension agent helps organize the responses, complements them with basic and safe recommendations, and provides guidance when more detailed technical input is needed, without undermining peer learning. On another occasion, a young man shares the design of a homemade vermicomposting system made from reused buckets. In a short video, he explains how he built it, the materials used, and the mistakes he made initially. Several participants replicate the system using locally available materials, adapt it to their context, and share photos of their results. The extension agent reinforces these contributions, encourages documentation of lessons learned, and promotes simple and practical knowledge exchange. In addition to virtual interaction, the network also supports in-person activities. Visits between communities are coordinated to observe agroecological practices and learn directly from other youth. The extension agent supports logistics and facilitates agreements regarding transportation, food, and material costs. In some cases, expenses are covered through collective contributions; in others, institutional support is mobilized to cover per diems or transportation, ensuring that participation does not depend solely on each individual's financial capacity. The network also helps coordinate participation in regional farmers' markets, through the exchange of information on dates, requirements, pricing, and product presentation. Over time, the network becomes a consolidated space for both technical and emotional support, strengthening connections among communities and sustaining agroecological processes beyond the formal activities of the project.

5. Closing: guidelines for the continuity of the training process

This workbook presents a set of techniques for participatory technical support which, beyond a one-way transfer of knowledge, is conceived as a relational and transformative pedagogical practice. Accordingly, farmer field schools, peer mentoring, demonstration plots, experience exchanges, living labs, participatory prototyping, collaborative digital learning, and agroecological social networks are approaches that strengthen co-learning processes and the collective generation of solutions by linking technical knowledge with local practices and territorial experiences. From this perspective, rural youth are recognized as strategic actors in innovation and sustainability, with emphasis placed

on methodologies that foster their effective participation, leadership, and capacity to influence productive and community processes.

At the same time, participatory technical support is understood to be meaningful when grounded in principles of horizontality, dialogue of knowledge, cultural relevance, inclusive participation, and a rights-based approach. Within this framework, the role of the extension agent is redefined as that of a learning facilitator and mediator of technical dialogue—someone capable of building trust and creating an environment of engagement and collaboration so that groups can experiment, adjust practices, and make informed decisions. Consequently, the techniques analyzed not only strengthen specific technical capacities but also enhance organizational and subjective dimensions such as autonomy, shared responsibility, collective work, and ownership of processes by rural youth, contributing to a model of rural extension that is more aligned with human dignity and the complexity of territories.

This is a flexible resource that can be adapted to different contexts, production cycles, and territorial realities. Extension agents are therefore encouraged to select and tailor the techniques according to their objectives, available resources, and the characteristics of the group. It is important to consider that all technical support processes require systematic monitoring and evaluation mechanisms to identify lessons learned, document progress, and recognize meaningful changes. In this regard, Workbook No. 4: Participatory Monitoring and Evaluation Techniques is essential for the methodological continuity of this guide, as it provides tools to support critical reflection on processes, feedback on results, and the generation of useful evidence for continuous improvement, transparency, and the sustainability of extension interventions in rural territories.

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